

NOTES ON A MASS AGGREGATION OF *ILLYRIA BURKEI*
(GODING & FROGGATT) (HEMIPTERA: CICADIDAE)
IN CENTRAL QUEENSLAND

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Abstract

A mass aggregation of *Illyria burkei* (Goding & Froggatt) is described. Most individuals were recorded resting on rough-barked tree species; however, the use of pale smooth-barked trees was common.

Observations

Illyria burkei (Goding & Froggatt) is a common cicada species that is known to form localised aggregations (Ewart and Popple 2001); however, details of these aggregations are not well documented.

Between 19 and 22 January 2003, large numbers of *I. burkei* were observed during a routine vegetation survey near Glenden in central Queensland (21°41'E, 148°11'N). A precise estimate of the population size was not possible at the time, but was likely to have been well into the thousands. Most individuals were observed within a 15 m radius of a small stand of Brigalow (*Acacia harpophylla*), near a small creek line. In all, 90% of individuals were estimated to be contained within an area of approximately 900 m².

Individuals were observed primarily resting on the trunks and branches of dark, rough-barked brigalow as well as other nearby rough-barked tree species, particularly Bauhinia (*Lysiphyllum cunninghamii*). The use of such trees is well known for the species (Moulds 1990). Individuals on these trees were usually resting approximately 0.6-2 m above ground.

In addition to rough-barked trees, they were also common on pale smooth-barked Forest blue gums (*Eucalyptus tereticornis*), which were not far from the brigalow stand. *Illyria burkei* is seldom recorded on smooth-barked species (Moulds 1990) and large numbers of individuals on these trees is unusual. Sample counts of *I. burkei* on these smooth-barked trees indicated an average of 55.66 (SD = 22.58; n = 6) cicadas per tree. All individuals on these trees were approximately 3 m above ground, before any substantial branching of the main trunk.

Individuals, on average, were estimated to be spaced from 10-15 cm apart, regardless of the type of tree they were on.

The vegetation of the immediate area surrounding the stand of brigalow was substantially different. It consisted predominantly of Bauhinia, Belah (*Casuarina cristata*) and Forest blue gum along the nearby creek. It is likely that the high density of cicadas forced individuals from more favourable resting locations (e.g. brigalow) onto less favourable positions.

Discussion

The emergence patterns of *I. burkei* have not been studied in detail. However, the sheer number of individuals observed during the survey suggests they may be an explosive emerger (Ewart 2001). An examination of specimens collected from trees and found dead on the ground indicated there was a slight bias in the population towards males (59%; $n = 63$), which is consistent with other synchronously emerging species in Australia (Ewart 2001).

Approximately 45 mm of rain had fallen in the area three weeks prior to the survey, which was the first substantial fall of the summer (only 35 mm had fallen in the preceding six months). This had caused fresh growth on the brigalow and it is possible that the rainfall triggered the synchronous eclosion of this species.

References

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